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ABSTRACT

Because vocational researchers and practitioners have not been able to reach a consensus concerning criteria for judging excellence in vocational education and have been unable to agree on exactly which factors lead to successful programs, research in vocational education has had limited impact on improving practice. Two sets of research findings are available that may provide a sound base for conducting vocational education research leading to systematic program improvement. The first is effective schooling research, and the second concerns principles used by successful businesses in the United States. The following six aspects of effective schooling research can be applied in an analysis of secondary vocational education programs: time on task, expectations of performance, student motivation, cooperative learning, effective learning climate, and use of evaluation. In their research concerning successful business training practices. Peters and Waterman have labeled eight principles as being the most important in describing the practices of successful companies. Vocational researchers must begin to relate outcomes to specific program characteristics. They must also discover whether factors determining success in vocational education are the same or different from factors determining school success in nonvocational areas. Finally, the cooperative sharing of results and replication of studies by other researchers will be essential in establishing generalizations of research findings. (MN)

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DESIGNING EXCELLENCE IN SECONDARY VOCATIONAL EDUCATION: APPLICATIONS OF PRINCIPLES FROM EFFECTIVE SCHOOLING AND SUCCESSFUL BUSINESS PRACTICES

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DESIGNING EXCELLENCE IN SECONDARY VOCATIONAL EDUCATION: APPLICATION OF PRINCIPLES FROM EFFECTIVE SCHOOLING AND SUCCESSFUL BUSINESS PRACTICES

Recent reports such as the National Commission on Excellence in Education (Commission Report 1983), the Task Force on Education for Economic Growth (Task Force Report 1983), and the Carnegie Foundation (Boyer 1983), have received headline attention for their strong criticisms of American public secondary education. One conclusion from these reports is that secondary schools have been ignoring excellence. The often-heard remedy is that steps should be taken to strengthen academic standards for high school graduation. Some attention is given in these reports to the needs of noncollege-bound students, but virtually none is given to those students choosing vocational education. Exceptions to this are the National Research Council report Education for Tomorrow's Jobs (Sherman, 1983) and the National Academy of Sciences report High Schools and the Changing Workplace (Metzger, 1984). If educational excellence is to affect the lives of all young people in America, it cannot be limited only to those wishing to pursue an academic curriculum.

In the haste to advocate academic excellence, many educators and critics have ignored the question of what vocational excellence means and how to achieve it. The private sector, however, has a view of vocational excellence based on their expectations for new employees coming into the job market. Employers are looking for young people with basic academic skills, a positive work ethic, flexibility, and in many cases, new basic occupational skills needed on the job.

Unfortunately, there is no widely accepted set of criteria for judging excellent vocational education programs or their outcomes. In addition to a lack of agreement on vocational education outcomes there is no consensus as to what factors lead to successful programs. This lack of agreement has contributed to research in vocational education having limited impact on improving practice.

Two sets of research findings are available that may provide a sound base for conducting vocational education research leading to systematic program improvement. The first is effective schooling research; the second concerns principles used by successful businesses in the United States.

Effective Schooling Research

Effective schools research was initiated in the 1970's in partial response to the earlier studies of Coleman and others which concluded that educational programs do not make a difference in learning outcomes. While the majority of these effective schools studies center on basic academic skill achievement in elementary school children, studies in the past four years have included secondary education as it relates to a broader set of learner outcomes. Perhaps even more important than the results of these studies is the way in which they have been synthesized and used systematically as a foundation for changing practices in many of America's schools.

This paper discusses some ways in which effective schools research can be applied to vocational education. Selected applications of effective schooling research are viewed from both macro and micro

perspectives. At the macro level, we first examine the broad research designs used to identify effective schools to determine what differences in education practices account for differences in observed outcomes. Applications of similar designs to vocational education research could result in a more systematic study of program features contributing to excellence in vocational outcomes. A second macro perspective examines the social organization of the school as an overarching concept found by Rutter and his associates to explain many of the separate factors associated with effective high schools (Rutter, 1979).

As applied to vocational education this could suggest looking at students' attitudes toward being in a vocational versus academic curriculum. Several secondary vocational education studies have already found a much more positive attitude of students toward their vocational courses than to their nonvocational courses. Participation in vocational organizations may also be a factor in helping students feel a close bonding to their vocational programs.

A third broad feature related to the effective schools studies is the emphasis on collecting and applying the research findings to help districts and schools improve their effectiveness. The national network of educational laboratories and research and development centers has joined forces to disseminate the research findings to schools and to provide technical assistance, whenever possible, in applying the findings to solving school-based problems. In this sense, the effective schooling movement has grown beyond syntheses of research studies to a concentrated attempt to reform educational practice. Vocational education could benefit from participating in these dissemination and school improvement efforts.

Effective schooling research has received good press, primarily due to the findings it has delivered on concrete issues facing education today. At the micro level, our full paper applies six aspects of effective schooling to vocational education: (1) time on task, (2) expectations of performance, (3) student motivation, (4) cooperative learning, (5) effective learning climate and (6) use of evaluation. These six aspects were selected because they were found to be supported across multiple research studies and have strong potential for application to vocational education. Some of these factors, such as time on task, have already been applied to vocational education while others await such application.

For example, the National Center for Research in Vocational Education conducted a study to apply time on task findings to agricultural education, marketing and distributive education, and to trade and industrial education (Halasz and Behn, 1983). Their instruments were designed to show the amount of time students spend on task on content (basic skills, technical skills, employability skills) as compared with time spent on noncontent (set up, clean up, etc.) and off task (time spent on breaks and socializing). They found that the average proportion of time on task in vocational programs is very similar to the time on task found in studies conducted in academic areas. Longer classes and classes with fewer students had the highest proportion of time on task. Obviously, such studies if replicated locally, would have direct implications for both policy and practice.

Research on "cooperative learning" has not been found to influence the direction of vocational researchers although it holds great potential. Vocational education programs provide excellent settings for

cooperative learning and team competition. The latter competitions can occur especially through student vocational organizations that may involve group projects. Research on cooperative learning in effective schools suggests that vocational teachers should: (1) discuss with students the concept of team learning, (2) form teams that reflect a range of performance, sex and ethnic mix of the class, (3) select rewards that are attractive to the student peer culture, and (4) observe both individual and group accountability.

Vocational teachers typically use a variety of group activities:

- Livestock judging teams at county and state fairs
- Model or simulated office operations
- Auto diagnosis and repair contests
- School landscaping project
- Construction of an actual home
- Planning and implementing a fashion show

Additionally, school-endorsed programs such as Junior Achievement, Explorer Scouting and 4-H accomplish their activities through cooperative learning activities. Principles recently learned from cooperative learning research could substantially strengthen and help justify such out-of-class vocational activities.

Successful Business Principles

Also supporting proposed future directions for research to improve vocational education are principles of excellence identified by Thomas J. Peters and Robert N. Waterman, Jr. Their book titled In Search of Excellence: Lessons from America's Best-Run Companies (1982), is the result of a several year study focusing on 62 of America's best-run

companies. These researchers uncovered eight principles that seem most important in describing the practices of successful companies. Peters and Waterman have labeled the eight principles: (1) A Bias for Action (a willingness to experiment and take risks); (2) Close to the Customer (attention to customer needs); (3) Autonomy and Entrepreneurship (autonomy to foster innovation; (4) Productivity Through People (people treated as adults and partners); (5) Hands-On, Value-Driven (clearly communicated values); (6) Stick to the Knitting (concentrate on the things you do best); (7) Simple Form, Lean Staff (flexible staffing with flatter hierarchies); and (8) Simultaneous Loose-Tight Properties (co-existence of central direction and maximum autonomy of work units). We describe each of these, giving examples from business and indicate ways they currently apply to vocational education and ways they might be applied.

Recommendations

Recommendations of this paper are presented for improvement in vocational education policy, program practice, and vocational education research. Policy implications center on state and local leaders defining the key purposes for secondary vocational education and their relationship to the overall goals of the high school. Examples are given as to how academic and vocational objectives can reinforce each other. Recommendations for improving practice are reflected in criteria for self-evaluation of vocational education programs. These criteria are taken from principles derived from effective schooling and successful business practices. Recommendations also focus on a set of key issues that could be used to guide future research on vocational education.

By 1990 it would be exciting to be able to point to various research syntheses that had identified key factors found across a variety of studies to have demonstrated impact on vocational outcomes. Currently, this data base exists primarily in regard to effective elementary schools. To reach this 1990 goal, a number of steps need to be taken. It is important that vocational education studies begin to relate outcomes to specific program characteristics. The six principles derived from effective schools research and the eight principles from successful businesses are recommended as starting points for identifying casual factors. Another step in reaching the 1990 goal is for researchers to identify the most and least successful high school vocational programs on various outcomes. Additionally, researchers need to observe these "outlier" programs to determine what makes the difference in outcome attainment aside from the background characteristics of students. It is also important to discover if factors determining success in vocational education are the same or different from factors determining school success in nonvocational areas. Finally, the cooperative sharing of results and replication of studies by other researchers will be essential in establishing generalizations of the findings.

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